

What is claimed is:

- 5 1. A shock absorber comprising a cylinder defining a chamber therein, the cylinder containing a fluid; a piston rod sealingly projecting into the cylinder and being axially displaceable with respect to the cylinder; a piston being attached to the piston rod, the piston being slidably disposed within the cylinder to sealingly divide the cylinder into first and second chambers; means for permitting fluid communication between the first and second chambers; the means for permitting fluid communication being disposed in at least a portion of the piston; wherein said fluid is comprised of a polyol ester the polyol component of which is a hindered polyol and the carboxylic acid component is a mono-carboxylic acid having from about 5 to about 18 carbon atoms.
- 10 2. The shock absorber of claim 1 wherein said polyol is trimethylolpropane.
3. The shock absorber of claim 1 wherein said monocarboxylic acid has from about 5 to about 10 carbon atoms.
- 15 4. The shock absorber of claim 3 wherein said monocarboxylic acid is branched acid.
5. The shock absorber of claim 4 wherein said branched acid has from about 5 to about 10 carbon atoms.
- 20 6. The shock absorber of claim 1 wherein said ester is an ester of trimethylolpropane and a mixture of carboxylic acids having from 5 to 9 carbon atoms.
7. The shock absorber of claim 1 further comprising an antioxidant, a corrosion inhibitor, an antiwear additive, a seal conditioner, and combinations thereof.

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8. A shock absorber comprising a cylinder defining a chamber therein, th
cylinder containing a fluid; a piston rod sealingly projecting into the cylinder and
being axially displaceable with respect to the cylinder; a piston being attached to
the piston rod, the piston being slidably disposed within the cylinder to sealingly
divide the cylinder into first and second chambers; means for permitting fluid
communication between the first and second chambers; the means for permitting
fluid communication being disposed in at least a portion of the piston; wherein
said fluid is comprised of an ester of trimethylolpropane and a mixture of
carboxylic acids having from 5 to 9 carbon atoms.

9. The shock absorber of claim 8 further comprising an antioxidant, a
corrosion inhibitor, an antiwear additive, a seal conditioner, and combinations
thereof.

10. In a shock absorber including hydraulic fluid substantially filling a bottom
tube that moves slidably past a piston for telescoping into and out of an outer
concentric upper tube, with valve means being located about said piston, for
controlling the movement of said hydraulic fluid between upper and lower
chambers formed on either side of said piston within said bottom tube, for
dampening the movement of said bottom tube into and out of said upper tube,
wherein the improvement comprises hydraulic fluid selected from the group
consisting of a polyol ester, the polyol component of which is a hindered polyol
and the carboxylic acid component is a mono-carboxylic acid having from about
5 to 18 carbon atoms, and an ester of trimethylolpropane and a mixture of
carboxylic acids having from 5 to 9 carbon atoms.

11. The shock absorber of claim 10 wherein said polyol is trimethylolpropane.

12. The shock absorber of claim 10 wherein said monocarboxylic acid has
from about 5 to about 10 carbon atoms.

13. The shock absorber of claim 12 wherein said monocarboxylic acid is

branched acid.

14. The shock absorber of claim 13 wherein said branched acid has from about 5 to about 10 carbon atoms.

5 15. The shock absorber of claim 10 wherein said ester is an ester of trimethylolpropane and a mixture of carboxylic acids having from 5 to 9 carbon atoms.

16. The shock absorber of claim 10 further comprising an antioxidant, a corrosion inhibitor, an antiwear additive, a seal conditioner, and combinations thereof.

10 17. In a shock absorber including hydraulic fluid substantially filling a bottom tube that moves slidably past a piston for telescoping into and out of an outer concentric upper tube, with valve means being located about said piston, for controlling the movement of said hydraulic fluid between upper and lower chambers formed on either side of said piston within said bottom tube, for dampening the movement of said bottom tube into and out of said upper tube, wherein the improvement comprises hydraulic fluid comprised of an ester of
15 trimethylolpropane and a mixture of carboxylic acids having from 5 to 9 carbon atoms.

20 18. The shock absorber of claim 17 further comprising an antioxidant, a corrosion inhibitor, an antiwear additive, a seal conditioner, and combinations thereof.

25 19. An automotive shock absorber including hydraulic fluid for dampening the movement of associated mechanical members wherein the improvement comprises hydraulic fluid including a polyol ester the polyol component of which is a hindered polyol and the carboxylic acid component is a mono-carboxylic acid having from about 5 to 18 carbon atoms.

20. The shock absorber of claim 20 wherein said polyol is trimethylolpropane.

21. The shock absorber of claim 20 wherein said monocarboxylic acid has from about 5 to about 10 carbon atoms.

5 22. The shock absorber of claim 21 wherein said monocarboxylic acid is branched acid.

23. The shock absorber of claim 22 wherein said branched acid has from about 5 to about 10 carbon atoms.

10 24. The shock absorber of claim 20 wherein said ester is an ester of trimethylolpropane and a mixture of carboxylic acids having from 5 to 9 carbon atoms.

25. The shock absorber of claim 20 further comprising an antioxidant, a corrosion inhibitor, an antiwear additive, a seal conditioner, and combinations thereof.

15 26. An automotive shock absorber including hydraulic fluid for dampening the movement of associated mechanical members wherein the improvement comprises hydraulic fluid comprised of an ester of trimethylolpropane and a mixture of carboxylic acids having from 5 to 9 carbon atoms.

20 27. The shock absorber of claim 26 further comprising an antioxidant, a corrosion inhibitor, an antiwear additive, a seal conditioner, and combinations thereof.

28. An automotive shock absorber including hydraulic fluid for dampening the movement of associated mechanical members, wherein the improvement comprises hydraulic fluid that is substantially biodegradable, and includes a polyol ester.

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29. The shock absorber of claim 28 wherein the polyol component of said polyol ester is a hindered polyol and the carboxylic acid component is a monocarboxylic acid having from about 5 to 18 carbon atoms.

30. The shock absorber of claim 28 wherein said polyol is trimethylolpropane.

5 31. The shock absorber of claim 28 wherein said monocarboxylic acid has from about 5 to about 10 carbon atoms.

32. The shock absorber of claim 28 wherein said monocarboxylic acid is branched acid.

10 33. The shock absorber of claim 32 wherein said branched acid has from about 5 to about 10 carbon atoms.

34. The shock absorber of claim 28 wherein said ester is an ester of trimethylolpropane and a mixture of carboxylic acids having from 5 to 9 carbon atoms.

15 35. The shock absorber of claim 28 further comprising an antioxidant, a corrosion inhibitor, an antiwear additive, a seal conditioner, and combinations thereof.

20 36. An automotive shock absorber including hydraulic fluid for dampening the movement of associated mechanical members wherein the improvement comprises hydraulic fluid comprised of an ester of trimethylolpropane and a mixture of carboxylic acids having from 5 to 9 carbon atoms.

37. The shock absorber of claim 36 further comprising an antioxidant, a corrosion inhibitor, an antiwear additive, a seal conditioner, and combinations thereof.

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